
# Pollution Prevention & Compliance Successes Through Technical Assistance

Department of Ecology
Hazardous Waste and Toxics Reduction Program

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# Chapter 1
# Introduction

## Program Mission

The mission of the Washington State Department of Ecology's (Ecology) Hazardous Waste and Toxics Reduction Program (HWTR) is to foster sustainability, prevent pollution and ensure safe waste management.

Fostering sustainability means "meeting the needs of the present without compromising the ability of future generations to meet their own needs."

Pollution prevention is the use of processes or practices that reduce or eliminate the use of hazardous substances and the generation of pollutants or waste at the source. Pollution prevention also includes practices that reduce the use of energy, water, or other resources through conservation or more efficient use.

Ensuring safe waste management refers to educating people of their responsibilities for waste that has been generated, including proper designation, accumulation, transportation, and treatment, storage, and/or disposal.

Program staff are dedicated to their mission to mitigate risks to human health and the environment now and in the future.

## Purpose of the Report

This report describes the HWTR Program's technical assistance activities and its successes in promoting pollution prevention and compliance with the state *Dangerous Waste Regulations*.

This document is an update to the previous edition, publication number 98-417, published in October 1998 and number 00-04-009 published in March of 2000. This publication covers the program's technical assistance activities from July 1999 to June 2000. This is not a comprehensive summary, but a snapshot of various activities performed by HWTR staff members as they assisted businesses with regulatory compliance and pollution prevention.

## What is Technical Assistance?

The HWTR Program characterizes technical assistance as activities that promote sound environmental practices. The program staff provide information to businesses and government facilities to help them improve their methods, apply new technologies, comply with the dangerous waste regulations, and conduct their activities in a manner that protects human health and the environment.

Technical assistance is provided by various methods, including site visits, meetings and training events, industry-specific assistance, and publications. The essential aspect is that technical assistance providers find effective ways to make contact with people and facilitate the exchange of information that promotes compliance and pollution prevention.

## Technical Assistance Activities

Effective technical assistance depends on understanding what motivates industries and government facilities to manage waste responsibly and reduce when possible. This is accomplished through significant interaction, discussion, and cooperation between hazardous waste generators and Ecology. Technical assistance activities include helping hazardous waste generators:

- interpret and comply with dangerous waste regulations;
- prepare and implement pollution prevention plans;
- comply with reporting requirements;
- reduce, recycle and properly manage their hazardous wastes and materials;
- develop partnerships between industry and Ecology; and
- understand the basic requirements of Water Quality and Air Pollution regulations.

## The Roles of HWTR Staff

Technical assistance is a function performed by HWTR staff in the regional offices and headquarters. HWTR staff include both toxics reduction and compliance specialists, each of whom provide technical assistance as part of their regular work activities.

Many more businesses exist in Washington than program staff can inspect. Therefore, the program strongly emphasizes helping businesses reduce waste and gain compliance voluntarily through technical assistance and education.

## Pollution Prevention Technical Assistance

Toxics Reduction specialists advise businesses about reducing or eliminating dangerous waste and the associated management costs. A primary focus of Toxics Reduction staff is assisting businesses and government facilities to prepare and implement their pollution prevention plans, as required by the 1990 Hazardous Waste Reduction Act (Chapter 70.95C RCW). The planning requirement applies to facilities that:

- generate more than 2,640 pounds of recurrent hazardous waste per year ("recurrent" waste is from a generator's on-going production process), or
- report for the Toxics Release Inventory (required reporting of certain chemicals released to the environment).

The 700 pollution prevention planning facilities generate over 90 percent of the reported hazardous waste in Washington State.

Toxics Reduction staff assist both planning and non-planning facilities by engaging in a variety of technical assistance activities, including:

- conducting reviews of hazardous substance use;
- researching industry specific hazardous substance and waste reduction techniques;
- providing on-site consultation to evaluate waste streams;
- reviewing facility Pollution Prevention Plans, executive summaries, Annual Progress Reports and Environmental Management System documents;
- analyzing new pollution prevention opportunities and techniques; and
- assisting with cost analysis of pollution prevention opportunities.

## Compliance Technical Assistance

Environmental specialists provide compliance assistance during routine site inspections. They assist businesses to comply with the dangerous waste regulations, to ensure proper waste management practices and to maintain required records.

The inspector serves as a source of regulatory information and provides technical assistance to facility managers by directing them to useful sources of information relevant to problems observed at the facility. The inspector may discuss remedial actions, and may refer questions and problems to other state personnel with pertinent expertise.



Compliance staff assist generators to comply with the state dangerous

Compliance staff assist generators to comply with the state dangerous waste regulations in numerous other ways, including:

- Conducting non-enforcement technical assistance site visits
- Participating in workshops and training events
- Developing guidance documents
- Coordinating with local government and Ecology programs

In situations where the inspector's technical assistance efforts to promote voluntary compliance are not successful, enforcement tactics can be utilized.

## The Integrated Approach

The HWTR Program has been working toward improving the effectiveness of the technical assistance it provides. One improvement has been to "integrate" compliance and pollution prevention efforts. Program staff members are increasing their efforts to provide technical assistance that promotes both pollution prevention and addresses compliance issues. Improved integration has been achieved by compliance and toxics reduction staff working collaboratively on projects including site visits, industry-specific projects, and workshops. In addition, there has been a deliberate effort to cross-train staff so that compliance staff are able to provide information about many pollution prevention opportunities and toxics reduction staff can spot common compliance problems.

## Evaluating the Success of Technical Assistance

HWTR staff strive to measure the success of these efforts by conducting return site visits, surveying participants of meetings and workshops, and keeping in contact with businesses via meetings and phone calls.

The following chapters include numerous types of qualitative measures, such as quotes from workshop participants or reports that the program staff or business participants involved expressed satisfaction about the project. Whenever possible, quantitative measurements are included as well, such as the numbers of people who attended a training event, quantity of waste reduced, or survey results. HWTR will continue to fine tune the performance measures used to evaluate the success of the program in its mission to prevent pollution and promote safe waste management.

# Chapter 2
# Pollution Prevention and Compliance Assistance Site Visits

## Introduction

On-site technical assistance continues to be one of the HWTR program's most effective methods of promoting both compliance and pollution prevention. This chapter illustrates how on-site assistance is provided by both compliance and toxics reduction field staff and explains how staff integrate their efforts.

## Compliance Technical Assistance Site Visits

Compliance technical assistance visits are distinguished from compliance inspections. Some site visits are either announced as technical assistance visits by the inspector or are requested as such by the facility. Compliance staff sometimes initiate special projects that are intended to provide technical assistance, such as visits to sites that have never been seen (described below).

Program policy states that the first visit by HWTR inspectors to a business will typically be treated as technical assistance. Any violations of dangerous waste regulations are discussed with the facility. Violations are not tracked and follow-up is not done. However, if serious violations are found that pose a threat to human health or the environment, the visit can be changed to a compliance inspection, rather than a technical assistance visit.

Some technical assistance visits are conducted as described in RCW 43.05, which generally prohibits enforcement on initial visits, but requires that Ecology clearly describe the violation, the regulation that was violated, and to provide a time-frame for the site to come into compliance. After that time period is passed, enforcement is an option if the violation is not resolved. HWTR staff prefer to conduct initial technical assistance visits as pure technical assistance which allow the inspector greater flexibility, rather than RCW 43.05 visits.

## Pollution Prevention Technical Assistance Site Visits

The primary focus of pollution prevention technical assistance visits is to help facilities that are subject to the pollution prevention planning requirement identify and implement pollution prevention opportunities. This involves:

- conducting reviews of hazardous substance use;
- researching industry-specific hazardous substance and waste reduction techniques;
- assisting with cost analysis of pollution prevention opportunities.

The following are examples of technical assistance site visits, some of which are intended to promote compliance, others with a pollution prevention emphasis, and some that integrate both compliance and pollution prevention.

## Stanwood Sweeps

HWTR staff, working jointly with the Snohomish County Health Department, conducted a series of compliance technical assistance visits to all the sites that generate hazardous waste and/or discharge wastewater to the Stanwood Waste treatment plant. A total of 21 site visits were conducted over a period of 3 days.

The purpose of the visits was to provide information about proper management and disposal of hazardous wastes and wastewater discharges. Facilities were given a one-page fact sheet about their regulatory requirements and informed of the Small Quantity Generator services provided by Snohomish County.

This project resulted in increasing the level of awareness about hazardous waste management and wastewater discharges within the City of Stanwood.

## Compliance Assistance to City of Federal Way Public Works Department

HWTR staff worked with the Federal Way Surface Water Quality Coordinator, the Federal Way Code Compliance Officer, and King County to conduct a series of site visits with local property owners. Their common goal was to provide technical assistance to two

industrial areas located in the Hylebos drainage in Federal Way. Industrial activities at these sites were primarily automotive repair and truck service. The team of city, county and state personnel visited 18 shops providing compliance information.

The visits succeeded in getting commitment by most small generators to participate in the Local Hazardous Waste Management Program hazardous waste audit and consultation program. This program entails evaluating and providing technical assistance to businesses in King County. The success of the Federal Way project can be attributed to cooperative effort between city, county, and state government.

## TREE Projects

Ecology's Toxic Reduction Engineer Efficiency (TREE) team uses engineering analysis to reduce environmental impacts. The technical assistance is provided at no cost to the company. Ecology started the innovative TREE program in 1997 when the agency realized that general technical assistance was sometimes not enough to help achieve pollution prevention. Since that time, TREE has a history of successful projects. Two of the most recent ones are highlighted below.

**Prototron Circuits**

Prototron Circuits (Prototron) manufactures prototype circuit boards and specializes in providing those prototypes quickly. Prototron was recommended for TREE assistance after they received a hazardous waste compliance inspection. The TREE team focused its efforts on finding ways to improve Prototron's plating, rinsing and waste treatment operations. The changes should save Prototron over $50,000 per year after the equipment is paid for (payback on recommended equipment was about 8 months). The changes will also eliminate 11,000 pounds of hazardous waste sludge each year.

Prototron plans to implement the ion exchange treatment system the team identified. Prototron expects the system will increase process efficiency and eventually save money. Prototron's plating manager "highly recommends" TREE to other companies. He said, the TREE team "did their homework before they came" and team members were "helpful and pleasant to work with."

**Rainier Ballistics**
Rainier Ballistics manufactures total copper-jacketed bullets in Tacoma. The company was recommended for TREE assistance through their pollution prevention planning work with Toxics Reduction staff. TREE's efforts with Rainier focused on improving their copper plating operation. The team identified opportunities that are expected to reduce hazardous waste by over 20,000 pounds each year and save about $30,000 annually after all the needed equipment is paid for. The payback period for all of the needed equipment is 2.8 years. However, half of the opportunities have payback periods of less than 6 months, so the team suggested that Rainier implement these first and then collect savings to pay for implementing the remaining opportunities.

It took only one month for Rainier to begin to implement TREE's suggestions! They have scheduled all remaining suggestions for implementation over the next two years. Rainier wrote a letter thanking Ecology for the help they received from the TREE team. The letter contained glowing praise for the TREE team and their report. Rainier's plant manager wrote "my comfort and confidence grew with each day.." and "they helped show us ways to save money while reducing hazardous waste at the same time."

## "Never Been Seens" Project (NBS)

HWTR staff provided site visits to one hundred medium quantity generators that had never been inspected by the program. The goal was to check for and encourage correction of compliance indicator violations as well as educate businesses on pollution prevention opportunities. These joint compliance/toxics reduction visits also provided opportunities to work with and receive training from local government agencies. Lastly, these visits served to "welcome" the businesses into the regulated community and make them more comfortable working with Ecology staff.

Prior to getting staff out in the field, extensive research was conducted to identify those sites that had never been seen. Data sources included historical inspection data from the Resource Conservation & Recovery Information System (RCRIS), and from local governments. Pollution prevention planning data and ShopSweeps information were also evaluated. As a result of these efforts, 216 sites were identified as "NBS."

The next step was to create a Geographic Information System (GIS) "project" to assist in planning and tracking the visits. Used in combination with site profiles containing waste stream descriptions and quantities drawn from the Hazardous Waste Information Management System (HWIMSy), this mapping greatly aided the organization of the fieldwork.

Businesses were called ahead of time and notified of the upcoming visits. After the visits were conducted, surveys were distributed to the sites that were visited. Survey results showed that people found the information was presented in a helpful, easy to understand manner. Most respondents indicated that they were more comfortable with Ecology as a result of the visit and now are more likely to contact the Department with dangerous waste questions. Overall, respondents showed that the visits had a positive impact on their business.

Ecology staff members were very satisfied with the results of the project. One participant summed it up this way:

> *"The NBS Project was better received by the facilities we visited than I ever would have imagined. It was a good public relations approach for Ecology, and we helped more businesses become aware of their compliance and pollution prevention responsibilities. At the same time, we helped them save money and reduce their environmental liabilities. It also gave us a good baseline as to what compliance problems, or lack of, exist out there in the real world, and where we might want to direct additional outreach resources."*

One of the NBS generators was a school district with five sites having waste from a variety of sources including chemistry labs, machine shops, and vehicle maintenance waste. Several compliance issues were noted at the NBS visit, so they were referred to the program's chemistry lab expert who followed up with a high level of educational outreach on lab wastes and thorough site evaluations.

## Increased Generator Contact Visits

Increased Generator Contact (IGC) projects are conducted by Ecology staff to provide technical assistance to a large number of small and medium quantity generators in a selected area. Businesses are helped to identify ways to improve their environmental practices related to hazardous substance use, waste management and water quality. These visits, generally lasting

less than an hour, are intended to provide helpful information to businesses. If problems are noted, the business owner will be advised of changes that are needed, but penalties are not issued.

Port Angeles was the focus of an IGC project in spring of 1999. Inspector teams were composed of Ecology staff with expertise in compliance, toxics reduction, and water quality. Staff from the local county government also participated. Ninety-six sites were visited in a period of three days including automotive shops, print shops, dry cleaners, and medical and dental offices. Most of these businesses were found to be using good environmental practices, although suggestions for improvements were made in most cases.

Participants were surveyed to find out their opinions of the visits. Port Angeles IGC participants responded that the technical assistance providers were "helpful and friendly" and that they were "knowledgeable and eager to help, but not pushy about it."

Follow-up will include mailing relevant guidance documents and return inspections.

# Chapter 3
# Technical Assistance at Meetings and Training Events

## Introduction

Bringing together groups of people with similar interests to conduct a meeting or provide a training event can be a very efficient and effective way to provide technical assistance. The following are examples of successful technical assistance delivered at meetings and training events conducted by HWTR staff.

## Environmental Management System (EMS) Roundtable

Ecology staff provide assistance to companies which elect to use documentation of their Environmental Management System (EMS) to fulfill the requirement to prepare a five-year update to their original Pollution Prevention Plan. This alternative allows facilities having a functioning Environmental Management System to substitute documentation of that system for preparation of a new Pollution Prevention Plan or Five-Year Update.

Toxics Reduction staff coordinated an Environmental Management System Roundtable hosted by Canyon Creek Cabinet Company. Fifteen people, including representatives of seven facilities, attended the roundtable. The minutes of the meeting were distributed to over 40 facilities electronically. Discussion topics included Information Management, and the Seattle City Light Climate-Wise program's successes and incentives. Representatives from Canyon Creek Cabinets told their EMS success story, and provided a facility tour. The meeting was well-received by the participants, and there was much informative interaction.

This meeting brought together representatives of the most environmentally forward-thinking facilities to share information. The meeting provided an opportunity for:

- Increasing personal interaction between environmental managers;
- Receiving a tour of Canyon Creek Cabinet (A winner of the Governor's Award for Pollution Prevention); and
- Exchanging information about software useful for environmental compliance. 96% of attendees said that they would be interested in attending future EMS meetings.

## Environmental Briefing with Navy Officials

Promoting compliance and pollution prevention at military facilities is another focus of Ecology's technical assistance efforts. Toward this aim, Ecology staff arranged a meeting with Puget Sound area Navy facilities.

HWTR staff members met with a Navy Admiral and lead environmental staff at the Homeport in Everett. The Admiral was the new commander for the federal Environmental Health and Safety Office that oversees Navy activities throughout the United States. Being able to participate in a meeting at this command level was indicative of the strong partnership Ecology has established with the Navy.

First, Ecology presented the conclusions from their report, *Environmental Management at Federal Facilities in Washington State*. Then, there was a discussion of the Dangerous Waste Regulation compliance issues for contractors working at Navy facilities. Compliance staff encouraged action to solve compliance problems encountered by inspectors. Toxics Reduction staff offered technical assistance to develop audit checklists and train contract officers how to use the checklist. The meeting concluded with agreement that there was a need for naval facilities to establish performance measurements and to normalize their hazardous waste data with levels of production to assist in setting goals for reduction.

Ecology received thanks from the Chief of Staff-Environment of the Navy Region Northwest. He also mentioned that this was the only regional visit where the Admiral met with a state regulatory agency.

The positive outcomes were:

- The Puget Sound Naval Shipyard has restructured contract oversight to allow contract managers to use a series of new checklists that include environmental compliance.
- Managers now review contracts before they are finalized as well. Managers rotate between contracts to allow cross training.
- The Navy received significant funding for a study to develop performance measures that include production levels across Navy activities. The study is underway and results are expected soon.

## Kellogg Middle School Friday Forum

Ecology staff visited Kellogg Middle School in Shoreline and gave a presentation to educate the students about common hazardous materials. The presentation focused on household hazardous

wastes, safer alternatives, purchasing options, what makes the substance a hazardous waste, and included educational hazardous waste games.

The teacher said the presentation was well prepared and that the students enjoyed it and learned a lot. The students voted to have the presentation as a topic for the forum again due to their continued interest in the topic.

The students learned:

- to be more aware and knowledgeable about the hazards in their own home,
- how to purchase less hazardous substances,
- how to properly read labels,
- how these substances impact the environment, and
- why this is important to them, their families, and the future.

This effort did not qualify as technical assistance to the HWTR program's "regulated community". However, the hope is that educating young people will help promote pollution prevention in their homes. Also, this information is valuable to the student's basic education – these students will become participants in business and government in the next 5 to 10 years.

## Universal Waste Lamp Rule Training

During the rule development phase, an Ecology staff member was involved in an interagency workgroup. Her involvement included presenting the proposed rule to those who would be impacted by the rule. She gave a presentation to explain the proposed rule, including differences between the Washington State proposed rule and the federal rule. The thirty attendees had the opportunity to ask questions and received information on how to comment on the proposed rule. They were provided with the information they needed about the new regulation so that they could begin to prepare for modifications in the way they handle spent lamps.

Once the new Universal Waste Lamp Rule was finalized, Ecology staff provided training on the new rule to many of the industry groups that would be affected. These stakeholders included lighting contractors, lighting distributors, lamp recyclers, private solid waste companies, Seattle City Light and Puget Sound Energy, and local hazardous waste and solid waste programs.

Questions received from the audience during the presentation were used as content for the development of the Focus sheet on the *Universal Waste Rule for Dangerous Waste Lamps.*

## Training for Washington State Ferry System

HWTR staff provided training to the Washington State Ferry System (WSF) for their use in gaining compliance with the dangerous waste regulations. The project was initiated after a series of inspections showed the need for comprehensive training of Ferry System personnel. This project focused on the staff of ferry terminals and those staff aboard ships that generate wastes and prepare the wastes for removal from the ships.

Ecology staff met with staff from different levels within WSF. They provided technical assistance and helped to create the training materials to be used by the Ferry System to train their employees. Ecology staff also attended one of the training events conducted by Ferry System personnel to verify content.

Positive Results:

- The Ferry System gained understanding of the training requirements
- Internal coordination was improved and action was taken to fulfill training requirements.
- WSF staff became trainers on topics of hazardous waste, becoming a resource for future WSF trainings.
- The workers in the terminals will have greater protection from unknown materials when ship staff properly label and prepare the wastes for transport.
- Implementing the training will help the Ferry system to avoid penalties.
- Maintaining inventory control and proper waste shipping procedures will save money on disposal costs.

## Dangerous Waste Generator Workshops - 2000

A team of seven Ecology staff presented eight full-day workshops for dangerous waste generators at locations throughout the state. The workshops covered topics related to compliance and pollution prevention. Workshop participants were instructed on how to:

- reduce waste to increase profits and reduce requirements;
- designate all industrial wastes before disposing of them;
- manage waste properly;
- complete the Dangerous Waste Annual Report quickly and correctly;
- avoid common compliance violations; and
- minimize purchase of hazardous materials to avoid generat ing dangerous waste.

HWTR staff members used a variety of teaching techniques to deliver the information, including hands-on exercises, audience participation, and slideshow presentations.

More than 780 participants in total attended the eight workshops. Evaluations indicated that most people found the workshops informative and that they liked the approach.

# Chapter 4
# Industry-Specific Assistance

## Introduction

The HWTR program concentrates on certain industries each year in order to develop effective technical assistance for specific groups. Focusing on a sector or industry enables staff to address known pollution problems and research opportunities for increased pollution prevention.

Working closely with a specific industry group helps HWTR staff understand what motivates the industry to improve their pollution prevention and compliance practices. This interaction and cooperation enables Ecology staff and the businesses themselves to identify the pollution prevention and compliance measures that are best suited to the industry. The process is mutually beneficial; both the industry and Ecology staff have the opportunity to develop specific pollution prevention and compliance strategies that are successful.

Working with industry groups also enables Ecology to reach a broader audience. Rather than work with one or two metal finishing shops, for example, it is more productive to share the information gathered with all metal finishing shops statewide.

## "You Auto Recycle" – Technical Assistance Audits to Wrecking/Salvage Yards

This project began with vehicle recyclers (wrecking/salvage yards) in 21 counties in Central and Eastern Washington. The project expanded to include facilities on the west side of the state, including Whatcom County and King County and a workshop was given in Seattle.

Sixty technical assistance visits have been completed at vehicle recycling facilities to date. The 2-hour visits included touring the entire yard and completing an audit sheet. A list of compliance and pollution prevention "to do's" were noted on the audit sheet and sent to the salvage yard owner along with a letter.

The "You Auto Recycle" project involved working closely with the other Ecology programs on cross-program issues, such as working with Air Quality staff on refrigerants, Water Quality on storm water issues and the Toxics Cleanup Program on preventing petroleum and metals contamination. County Moderate Risk Waste Coordinators were also involved since most of the auto recyclers are small quantity generators and use small business hazardous waste collection services. Other agencies involved included: Washington State Patrol; County Code Enforcement; County Health Departments; and the Indian Tribes.

The Automotive Recyclers of Washington Association supported this project from the start. They published several articles in their newsletter pertaining to hazardous waste and the environmental regulations that apply to their industry group. The association attained grant money to provide storm water assistance in Seattle-King County and lead-acid battery collections throughout the state. They also gave workshops on storm water and hazardous waste management.

The "You Auto Recycle" manual was revised and several hundred copies were distributed. Information from the project was requested for use by other states, including Kentucky, Florida, Maine, New Hampshire, New York, Michigan and Indiana. The manual has also been translated into Spanish, "Manual de Reciclar Automoviles: Usted Debe Reciclare." In addition, a group of Chinese delegates that was touring auto recycling facilities in the Seattle area requested information from Ecology.

Follow-up will include visits to approximately 20% of the facilities - those that had the most problems at the time of the initial visit. Phone calls will be made to the other auto recyclers that had been visited. In each case, participants will be asked to answer survey questions. Their responses to the follow-up survey questions will be compared with a survey that was sent at the beginning of the project.

Positive results:

- Reducing soil contamination due to proper management of fluids and other materials collected;
- Reducing ozone-depleting refrigerants released to the atmosphere;

- Reducing storm water run off and improper discharge of industrial wash waters to dry wells, storm drains and septic systems;
- Increasing public awareness of the importance of vehicle recyclers and the amount of energy saved by the metal salvage yard industry.

## Painting Contractors Project

Each year, the HWTR Program works with a particular industry to help reduce its environmental impacts. Most recently, Ecology conducted a technical assistance project working with painting contractors in a friendly, non-enforcement manner to help painters understand how to "do the right thing," and save money, too.

The purpose of this project was to share information with painting contractors statewide about:

- Saving money through practical improvements
- Legal responsibility for waste generated at job sites
- Transporting wastes and flammable materials
- What to do with wash water at a site with a septic system
- Determining whether or not a waste is hazardous
- Managing leftover paints so they don't become a problem

Several members of the Paint Contractor Sector project team attended the Paint Decorators & Contractors Association (PDCA) conference. One of the most important things they learned at the conference was that direct mail was the best way to reach the painting community rather than trying to distribute information through the supply chain. Although direct mail would cost more, it was deemed the most appropriate way to reach the target audience. The team developed useful documents containing pollution prevention information related to distillation units, surface preparation, inventory control, and cleanup that will be distributed throughout the industry.

## Cruise Lines

Work from the previous "Ship Shape" project which focused on marinas, led to work with the Port of Seattle for training on Best Management Practices for Marinas at Fisherman's Terminal. The training was done by Ecology staff and staff from the University of Washington Sea Grant Program that works on oil spill prevention.

The Port of Seattle contacted Ecology requesting more technical assistance classes. Issues at Pier 66 issues involving cruise lines and their practices were of particular interest. The Port of Seattle requested assistance from Ecology's HWTR and Water Quality programs to develop and review Best Management Practices for the cruise line industry covering solid waste, hazardous waste, boatyard activities, black water, gray water, and ship maintenance at piers.

This effort succeeded in developing Best Management Practices to be used by cruise ships at the Port of Seattle. Ecology's work with the Port and the cruise line industry will be continued.

# Chapter 5
# Other Outreach

## Introduction

Ecology's Hazardous Waste & Toxics Reduction Program (HWTR) employs a variety of innovative methods to educate hazardous waste generators and encourage them to comply with the dangerous waste regulations and engage in pollution prevention activities. This chapter describes the increasing development of the HWTR website as a means to distribute technical assistance information. Descriptions of the Hazardous Substance Information Office, The Interagency Regulatory Analysis Committee (IRAC), and the Governor's Award for Achievement in Pollution Prevention, are also included.

## HWTR Website

The HWTR website provides an interactive, online information exchange of pollution prevention and compliance information with the public. Pollution prevention information is provided through a variety of technical publications, and guidance manuals for Pollution Prevention (P2) Planning and P2 opportunities by business sector.

Compliance information is provided with access to state dangerous waste regulations, Focus Sheets, online reports including Toxic Release Inventory (TRI) and Tier Two Emergency and Hazardous Chemical Inventory Report (Tier 2) Annual Report of large chemical quantities stored in the State. The public can also receive the current versions of the Dangerous Waste Annual Report forms and the electronic reporting software.

The HWTR Web page now includes a electronic version of *Shoptalk*, the program's quarterly newsletter which contains both pollution prevention and compliance information. The online version allows readers to:

- Scan or search *Shoptalk* to quickly find the information needed.
- Print an article or an entire issue.
- Link to related information

- Contact Ecology staff via e-mail.

The Waste in Fertilizer Database, also new to the Web page, lets the public know which industrial wastes (including constituents) are incorporated into soil fertilizers.

The HWTR website is a forum for disseminating press releases and providing important links to other helpful websites across the nation and the world. The website at: *http://www.ecy.wa.gov/programs/hwtr/* averages over 2000 visitors per month. It is continually evolving to better reach the community.

## Hazardous Substance Information Office

This office provides technical and regulatory assistance to the general public, businesses and the news media. Requests are received via the toll-free information line, the Community Right-to-Know website and in writing. Most inquiries relate to questions about hazardous substances/chemicals, Emergency Planning and Community Right-to-Know, and the hazardous waste education fee. The information line provides direct service for about 450 callers each month. Many other callers opt to be routed to the pre-recorded messages for frequently asked questions.

## The Interagency Regulatory Analysis Committee (IRAC)

The effectiveness of technical assistance is improved by HWTR staff participation in the Interagency Regulatory Analysis Committee (IRAC). IRAC's mission is "to create a more effective and efficient means of protecting the environment, and public health and safety through coordination of regulatory agencies." IRAC provides a forum for regulators from different agencies to learn about, address and resolve regulatory conflicts, gray areas and gaps. IRAC also provides the opportunity for regulators to network and exchange information.

IRAC was formed in response to frustration expressed by businesses that multiple agencies inspected their facilities and delivered conflicting regulatorty information. Through IRAC, agencies share their diverse perspectives and develop consensus on these regulatory issues.

IRAC members include regulators from city, county, state, and federal agencies. IRAC has a membership of about 400 individuals, and is administered through the Local Hazardous Waste Management Program in King County.

Businesses benefit when conflict and unclear regulations are identified and resolved. Recent issues addressed by IRAC include:

- pesticides in shipping containers,
- decommissioning heating oil storage tanks,
- marine operations - an inspector's guide.

IRAC produces a quarterly newsletter and sponsors events where the information is shared with the IRAC membership. These events are workshops and general membership meetings.

IRAC successes include:

- IRAC documents have been used as a template and model for other agencies when developing their own documents.
- IRAC documents have been compiled into the guidance manual for inspectors.

## Governor's Award for Achievement in Pollution Prevention

This annual award program, now in its eighth year, recognizes businesses and facilities that have demonstrated success in pollution prevention. It is administered by Ecology for the Governor. In addition to honoring businesses that achieve outstanding pollution prevention, this award serves to educate other businesses about pollution prevention opportunities.

Applications are reviewed and judged by an external panel of experts. Winning facilities are selected because they have demonstrated the benefits of reducing or eliminating use of toxic materials, generation of hazardous waste, emissions to the air and/or discharges to water. They also must have demonstrated excellence in overall environmental commitment and willingness to share their knowledge with the community.

The 2000 Governor's Award program differed from those in years past because the eligibility criteria was expanded to include "sustainable business practices" which include resource conservation and product stewardship, in addition to toxics reduction and waste

reduction. Broadening the criteria in this way served to bring in a larger and more diverse number of applications, 47 in all, from which 11 outstanding facilities were selected as winners.

## Winners of the 2000 Governor's Award for Pollution Prevention

**Aldercrest Auto Rebuild**
This Lynnwood auto-body shop seeks out new products and processes that improve environmental protection and worker safety while maximizing product quality and cost savings.

The business works with suppliers and new processes to significantly reduce hazardous substances used and hazardous waste generated. They are pioneers in new technology use, such as computerized paint mixing. They buy paint that contains no lead and minimal amounts of chromium, and invested in equipment that greatly reduces solvent use and disposal costs, and reduces worker contact with the chemicals.

**Boeing Aircraft and Missiles Group**
This metal finishing plant in Kent installed a reverse-osmosis system to recycle wastewater. This "double-pass" system allows 85 percent of contaminated wastewater to be recycled, saving 95,000 gallons of water per day or 35 million gallons per year.

This system succeeded in reducing water usage, sanitary sewer discharges, hazardous materials usage, and hazardous waste generation. These changes saved the company about $300,000 per year, and the cost of the system was returned in only 10 months.

**Fairchild Air Force Base**
Fairchild received the Governor's Award in 1998, but its efforts did not stop there. According to Fairchild's pollution prevention program, environmental protection is the responsibility of each employee on the base.

Sustainability has become a regular business practice there. They:
- limit the purchase of products containing toxic chemicals;
- reduce use of pesticides by using an integrated pest management plan;
- recycle fuel filters (and we're talking about filters that are more than four feet tall and 10 inches wide);

- use low-mercury fluorescent lights; and
- promote energy conservation projects and transportation alternatives.

**GM Nameplate, Inc.**
Located in Seattle, this industry leader works with large-format digital printing, which uses only a fraction of the solvents needed for screen printing.

Other waste-reduction successes at GM Nameplate include extending the life of photo-processing chemicals, switching to recycled acetone, and switching to ultraviolet-curable ink.

GM Nameplate is located in an urban area, and their efforts to be a good neighbor include offering an "open house" plant tour to people in the neighborhood — showing off that it can be done "right."

**Habitat – Spokane and The Builders' Surplus Store**
Habitat-Spokane and The Builders Surplus' Store have succeeded in reducing waste, promoting the local economy, and improving the community. Each year, the companies take damaged or surplus landfill-bound building materials equivalent to 411 homes and redirects them, allowing low-income families an opportunity to build or improve their homes.

Working with two employees and 50 volunteers, they receive donated materials to construct "Habitat for Humanity" homes or sell to people in the community at greatly reduced prices.

**In Harmony Organic Based Landscape Services**
This Woodinville company specializes in low environmental impact landscaping relying on practices that promote plant health, and minimize pest problems and the need for pesticides and synthetic chemicals. Their methods include designing landscapes that have the right plant in the right place, using good soils, promoting natural lawn care and avoiding pesticide application by using plant health and integrated pest management methods.

Company owners and their employees are passionate about protecting the health of the planet. Their company's growth is demonstrating the success of these highly effective and commercially desirable techniques. Their sales brochures, fact sheets and newsletters all promote their approach, and they have given presentations to garden clubs, professional associations, conferences and students.

**Klickitat Public Utility District**
Klickitat PUD is being awarded for its gas-to-energy plant at the regional landfill in Roosevelt, Washington. The power plant has made one of the state's smallest PUD's a regional leader in green-power generation.

This plant makes productive use of methane, a natural byproduct of waste decomposition and a greenhouse gas that is 20 times more destructive than carbon dioxide. Eighty percent of the methane produced by the landfill is captured to make clean energy, at half the cost of other renewable energies.

**RE Sources and The RE Store**
RE Sources is a non-profit environmental education organization. Its activities include operation of the RE Store, in Bellingham and Seattle. It accepts "used but usable" building materials from the public, such as lockers and carpets from the Kingdome. Through the RE Store, more than 1.5 million pounds of materials are diverted from untimely disposal each year.

RE Sources works with county and state government on environmental education programs for schools, businesses and the community. It also provides opportunities for active citizen involvement. Most recently, RE Sources has been a highly effective voice for increased pipeline safety.

**SEH America, Inc.**
SEH America manufactures silicon wafers in Vancouver. With programs in place such as environmental awareness training for new employees and a comprehensive Environmental Management System to identify goals and strive for continuous improvement, it's commitment to environmental protection is clear.

Recently, they achieved a 10 percent reduction in water use, amounting to 244 gallons of water saved per minute. In addition, SEH America recycled more than two million pounds of solid waste in 1999, saving the company more than half a million dollars in disposal costs.

**Sleeping Lady**
The Sleeping Lady conference and retreat center in Leavenworth was originally a Civilian Conservation Corps camp built in 1939. Harriet Bullitt purchased the property in 1991, and it became a meeting facility that complements the natural environment and

shares sustainable-development information through the Internet, newsletters, and published articles.

In order to minimize impact, Sleeping Lady re-used original structures, preserved all trees, used native plants for landscaping, and selected environmentally friendly construction products, such as water-based paints and recycled-material decking.

Other examples of sustainable practices are the use of cotton bed sheets made without formaldehyde, a pool disinfected with ozone and bromine instead of chlorine, and meals prepared with produce organically grown on the premises.

**The McGregor Company**
This agricultural business in Colfax sells fertilizer, equipment and chemicals, and promotes water and soil stewardship programs to farmers.

The McGregor Company fosters close working relationships with growers, researchers and government agencies. For example, they initiated a program to promote careful use of chemicals called "Every Drop Counts."

The company manufactures equipment that enables farmers to reduce field tilling and precisely place fertilizer. These steps have helped to reduce soil erosion and water pollution, reduce diesel fuel consumption, and achieve better returns.

# Chapter 6
# Publications

## Introduction

Ecology's Hazardous Waste and Toxics Reduction Program (HWTR) produced 46 new and revised publications from July 1999 to June 2000. Publications are distributed to at least 200 recipients, with the most popular documents distributed to as many as 1000 recipients.

Most publications are intended to help the dangerous waste generator learn Washington's regulations and permitting requirements. In addition, many publications provide information on how to responsibly reduce and dispose of dangerous waste.

Program publications are written primarily for the business community and provide information on proper dangerous waste management. HWTR publications are carefully developed by a partnership of program staff and members of the publications team. The process begins with discussion about the intended audience, how the audience could best obtain a copy of the publication, and whether the publication will need to be updated. The team proceeds with publishing and distributing the document.

Recently, more emphasis has been placed on making publications available on-line through Ecology's website. HWTR's goal is to reduce the number of paper copies produced and improve website publication. Paper copies of publications won't be completely replaced by web site publications because some clients do not have easy access to the Internet. However, an effort will be made to encourage people to use the Internet to view or print HWTR publications in order to reduce paper consumption and to reduce printing and mailing costs.

The following are examples of publications that support HWTR's technical assistance activities (these and many other publications can be found at *www.ecy.wa.gov/hwtr*).

### *Shoptalk*

*Shoptalk* is the program's quarterly newsletter. It contains "reader-friendly" information for generators about hazardous waste management and pollution prevention. *Shoptalk* is distributed to more than 25,000 readers.

A new Internet version of *Shoptalk* was developed in order to enhance readers' abilities to:

- Scan or search *Shoptalk* to quickly find the information needed.
- Print an article or an entire issue.
- Link to related information
- Contact Ecology staff via e-mail.

On-line subscribers receive an e-mail message with a direct link to the Internet site for current and past issues. Introduction of the Internet version of *Shoptalk* is helping the HWTR program reduce printing and mailing costs, and save trees!

### *Reducing Toxics in Washington: A Report to the Legislature, 1998 Annual Progress Report*

This report provides information on the progress being made in preventing pollution by reducing and eliminating hazardous wastes and hazardous substances in Washington. The report is intended to update the Legislature and other interested parties on progress toward implementing the Hazardous Waste Act, Chapter 70.95 RCW. The report covers progress during the 1998 calendar year.

### *Manual de Reciclar Automoviles: Usted Debe Reciclare* (Spanish Version of "You Auto Recycle")

This booklet briefly identifies areas of interest to the Automobile Recyclers industry and provides some helpful information on how to reduce and manage waste at its source.

### *Environmental Management at Washington State National Security Facilities*

This publication is an evaluation of the 22 national security facilities located in Washington State. This evaluation was an effort to provide a summary of the environmental programs, challenges and accomplishments of these facilities.

### *Metal Machining Sector Pollution Prevention Assessment and Guidance*

This report provides technical and regulatory information to the metal machining industry sector as a whole. The report is based on research during site visits to 12 metal machining facilities in the Spring of 1999.

### *Hazardous Waste Services Directory*

This directory is intended to help generators of hazardous waste identify and contact businesses that can help them manage hazardous wastes.

For access to these and other HWTR publications visit our website at *www.ecy.wa.gov/hwtr.*

# Chapter 7
# Conclusion

The Hazardous Waste and Toxics Reduction Program is dedicated to its mission of fostering sustainability, preventing pollution and ensuring safe waste management. Progress toward these goals is tracked by evaluating specific performance measures, defined for both toxics reduction and compliance staff.

## Toxics Reduction Performance Measures

Toxics reduction measurements focus on the progress reported by pollution prevention planning facilities. Progress is noted by tracking:

- How many facilities dropped below pollution prevention planning thresholds due to technical assistance from toxics reduction staff,
- How many pollution prevention projects were implemented with TR staff assistance,
- Specific benefits reported from implementing pollution prevention projects,
- Status of pollution prevention planning facilities and the adequacy of planning documents, and
- Pollution prevention activities completed by program staff, including site visits, phone calls, and workshops.

## Toxics Reduction Results

Figure 1, on the next page compares medium and large quantity generators of hazardous waste to those who, due to their waste amounts, are also required to prepare pollution prevention plans for the reduction of hazardous waste and substances.

The chart shows that the number of large quantity generators and planners are very close (i.e. most large quantity generators are also planners), and that their numbers have remained fairly stable over the last 5 years. In comparison, medium quantity generator numbers show a steady decrease from 1995 to 1998 and a very slight increase starting in 1999. The decrease in the number of medium

quantity generators over the years is likely due to the facilities implementing better pollution prevention measures and by changes in the dangerous waste regulations that provide other management options for wastes that had been limited to the hazardous waste management system. These changes have enabled some medium quantity generators to become small quantity generators.

## Figure 1

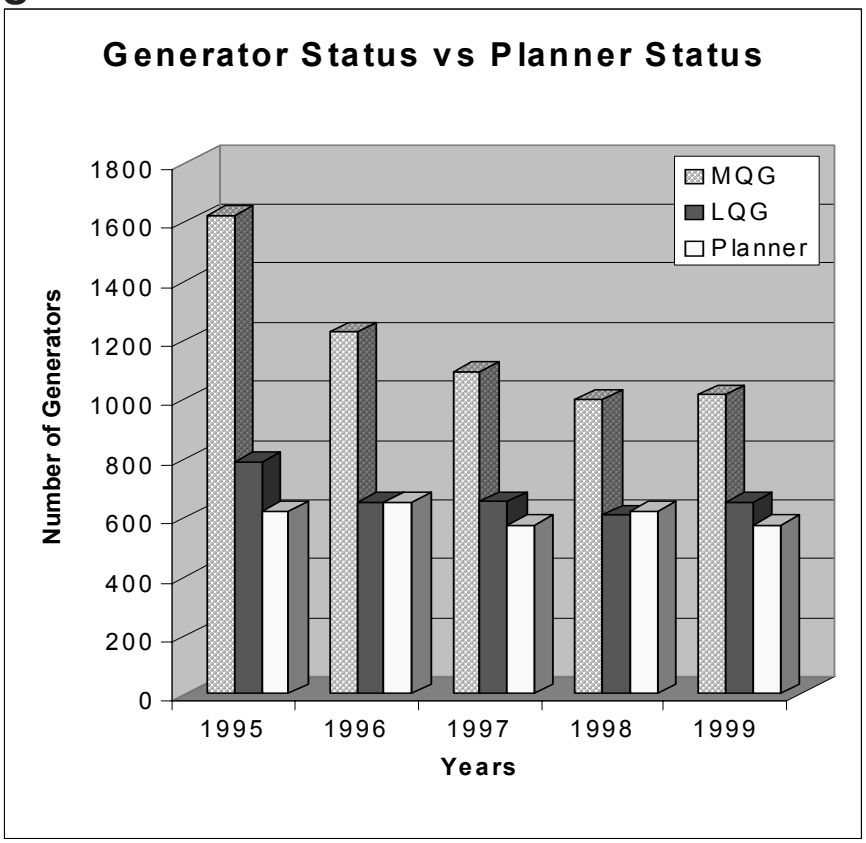



Figure 2 below, displays the amounts of hazardous waste generated in Washington State that are measured for pollution prevention (P2) planning needs. This waste consists of recurrent wastes reported by pollution prevention planning facilities on their annual dangerous waste reports (recurrent wastes are defined as having been generated on-site from a production process, a service activity or a routine cleanup). Non-recurrent wastes (waste generated one time only, or infrequently such as a spill or clean-up) and waste from specialized sources, such as Hanford, and commercial treatment storage disposal recycling facilities (TSDRs) have been excluded because these wastes are not applicable to P2 planning.

# Figure 2

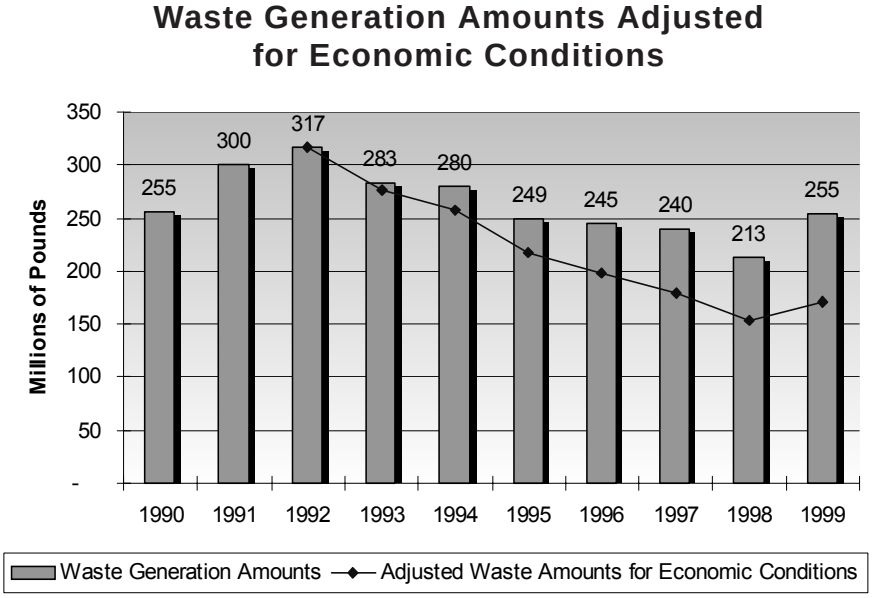



Figure 2 also shows the data adjusted for the changing economy. The adjustments are intended to show estimated levels of waste generation assuming the economy remained constant. This process, called "normalizing" data, makes waste totals more comparable from year to year. The adjustment factors were calculated frm information provided by the Department of Revenue. Annual gross business income from all Washington businesses was the normalization measure used.

Decreases or increases in generation amounts from year to year can be attributed to several factors. Examples are intermittent management of certain waste streams, changes in dangerous waste regulations that affect how waste is counted and reported, and actual reductions in waste generation through the implementation of pollution prevention projects. The overall increase of waste generation in 1999, shown in Figure 2, is attributed to increases in metal industry waste. Metal industry facilities that manufacture and refine metals account for 59% of the waste generated in 1999. Spent potlining wastes, an intermittent waste stream, account for the high volumes and are responsible for the large waste fluctuations.

Many of the technical assistance activities discussed in this report directly result in waste reduction. While it is difficult to quantify their exact contribution, these site visits, workshops, consultations, publications, and industry-specific technical assistance, all have a positive influence.

## Compliance Performance Measures

Compliance performance is measured by calculating how many environmental threats are found and resolved. Compliance staff track "compliance indicators" - those violations associated with spills, illegal disposal, serious container problems, and failure to designate. Compliance staff evaluate:

- The number of inspections conducted per year
- The number of environmental threats that are resolved per year
- The percentage of environmental threats found per inspection

## Compliance Results

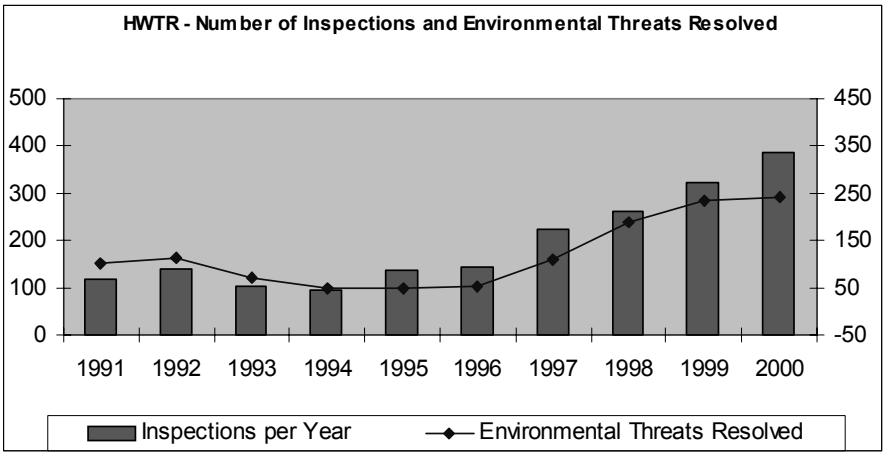
Since 1991, compliance staff have made noteworthy progress in finding and resolving environmental threats, as shown in Graph 3, below.

- The number of inspections per year increased by 334%.
- The number of environmental threats resolved per year increased by 243%.

The large increases in threats resolved (243%) and inspections completed (334%) can be attributed to streamlining the inspection process and targeting inspections with more focus on addressing environmental threats rather than paperwork violations.

Environmental threats are violations associated with spills, illegal disposal, serious container problems, and failure to designate. These four violation areas make up "Compliance Indicator Violations."

### Graph 3: Inspections and Environmental Threats Resolved




Environmental Threats are violations associated with spills, illegal disposal, serious container problems, and failure to designate. These four violation areas make up "Compliance Indicator Violations."

## HWTR Staff Make Contact

The methods used to achieve both toxics reduction and compliance success measures include site visits, meetings, training events, and industry-specific assistance, as described in the body of this report. The element that is common to these activities is interaction between program staff and people in the regulated community. Personal interactions are opportunities for Ecology staff to share vital information about compliance and pollution prevention.

Program staff members have succeeded in making "in-person" contact with impressive numbers of people in the regulated community. The following table shows the numbers of site visits provided by compliance and technical assistance staff, the numbers of workshops conducted, and the numbers of people that attended the workshops.

## Table 1:

**Number of Site Visits, Workshops, and Workshop Attendees (July 1999 to June 2000)**

| | | |
|---|---|---|
| Compliance Site Visits | 632 | |
| Toxics Reduction Site Visits | 1034 | |
| **Total** | | **1666 Site Visits** |
| | | |
| Compliance Workshops | 22 | |
| Compliance Workshop Attendees | 1138 | |
| Toxics Reduction Workshops | 21 | |
| Toxics Reduction Workshop Attendees | 1177 | |
| **Total** | | **43 Workshops** |
| **Total** | | **2315 Workshop Attendees** |

## Future Priorities

Technical assistance activities will continue to be a top priority for the HWTR program in the coming years, with staff members engaging in many of the same activities described in this report. The following is a list of some of the projects planned:

- **Dairy Manometer Project** - a statewide effort to finance replacement of mercury vacuum gauges (mercury manometers) on dairy milking equipment in milk-producing dairies with mercury-free gauges and to pay for the recycling costs associated with the elemental mercury.

- **TREE Team** – the Toxics Reduction Engineer Efficiency team will continue to provide free in-depth technical assistance to interested businesses in Washington State.

- **Increased Generator Contact (IGC) Visits** – IGC visits are planned for the Aberdeen and Hoquiam area.

- **Internet Publications –** The HWTR program will continue to enhance its web site, in order to improve distribution of pollution prevention and compliance information.

- **Grant from EPA's Office of Enforcement and Compliance Assurance (OECA)** – will fund a project intended to provide information on which methods are most effective for promoting compliance.

- **Wet Processing Sector** project will address toxics reduction and compliance issues that are common to electroplating and metal finishing, aerospace parts manufacturing that involves process baths and printed circuit board manufacturing.

The program will continue to evaluate the success of its activities in order to increase the effectiveness of the methods used. Increasingly, staff will challenge themselves to connect pollution prevention and waste management endeavors with the broader context of sustainability.